

REMARKS

A Second Supplemental Information Disclosure Statement is being filed simultaneously herewith.

By this amendment, new claims 42 to 45 have been entered. Support for these claims can be found, for example, on page 20, line 1. Claim 2 has been amended for clarity and consistency. Specifically, in the subparagraph defining "A", the term "aryl group" has been replaced with "moiety" because the term "non-aromatic", also recited, refers to compounds other than aryl (see, for example, page 19, second-last paragraph). No new matter has been entered. Claims 38 to 41 were withdrawn from further consideration by the Examiner and the restriction requirement made final, so these claims have been cancelled. Claims 1 to 12, 14 to 37, and 42 to 45 are in the case.

Claims 1 to 12 and 14 to 37 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Franke *et al.*, WO 02/072206 ("Franke") in view of Neverov *et al.*, *Inorg. Chem.* 40(14): 3588-3595 (2001) ("Neverov"). Applicants respectfully traverse this rejection and request reconsideration in view of the following remarks.

The invention relates to a method of decomposing a neutral organophosphorus compound comprising subjecting the neutral organophosphorus compound to an alcoholysis reaction in a substantially non-aqueous medium comprising positively charged non-radioactive lanthanide series metal ions and/or transition metal ions, and at least a trace amount of alkoxide ions. The invention is based, at least in part, on the surprising finding that the non-radioactive lanthanide series metal ions, transition metal ions, and combinations thereof and the alkoxide ions catalyze alcoholysis of the neutral organophosphorus compound. As will be shown below, this is neither taught nor suggested by the cited art.

Franke teaches a method of decomposing organophosphorus compounds in a non-aqueous medium comprising 20 to 40% of an aliphatic C₂ to C₆ alcohol, 20 to 40% of a C₂ to C₆

aliphatic amino alcohol, 20 to 50% of a cyclic C₂ to C₅ acid amide and/or an aliphatic C₂ to C₆ diamine, and 0.5 to 2.6 mol/L of an alkali alkoxide and/or an alkali aminoalkanoxide. One of ordinary skill in the art would recognize that Franke teaches a stoichiometric process in which the active agent is the stoichiometric amount of alkoxide, which makes the solution very basic. The alkoxide ion decomposes an organophosphorus compound through stoichiometric nucleophilic attack at the phosphorus atom, and the reaction stops when all the alkoxide is consumed. Franke is deficient because it does not teach or even suggest a catalytic process involving the use of metal ions such as lanthanide series ions and transition metal ions.

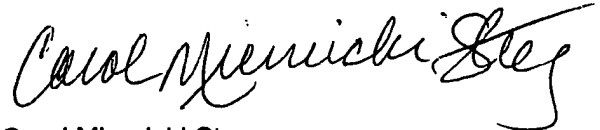
Neverov relates to the methanolysis of acids — phosphate diesters — using La³⁺ as a catalyst. Phosphate diesters have an acidic proton ((RO)₂(O)P-OH) which undergoes acid dissociation in solvents such as water and alcohols (see compounds 3, 4, and 5 on page 3589 of Neverov). In solution, phosphate diesters are negatively charged, and a person skilled in the art would expect them to associate strongly with positively charged metal ion species. In contrast, the present invention concerns neutral organophosphorus compounds which have distinct chemistry from charged, particularly negatively charged, compounds. Neverov is deficient because it does not teach or even suggest using La³⁺ to catalyze the alcoholysis of neutral organophosphorus compounds.

Neverov does not repair the deficiency of Franke because it does not teach a method for decomposing a neutral organophosphorus compound. A person trying to solve the problem of how to decompose neutral organophosphorus compounds such as, for example, chemical warfare agents would not look to Neverov, because the field of phosphoric acid chemistry is not relevant. There is no incentive to combine Neverov with Franke, and it is respectfully submitted that the Examiner is using impermissible hindsight, gained from Applicants' disclosure, in making the combination. Withdrawal of the rejection and reconsideration are requested.

Applicants respectfully request reconsideration of the rejection of claims 1 to 12 and 14 to 37 under 35 U.S.C. § 103(a) in view of the above remarks.

In view of the foregoing, Applicants submit that the claims are in condition for allowance and respectfully request same. Any fees that may be required in respect of this Response and Amendment may be charged to Deposit Account No. 17-0110. Should the Examiner wish to discuss this Response and Amendment or the application, he is requested to call the undersigned or Stephen J. Scribner (Reg. No. 44,452) at (613) 533-2342.

Respectfully submitted,



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